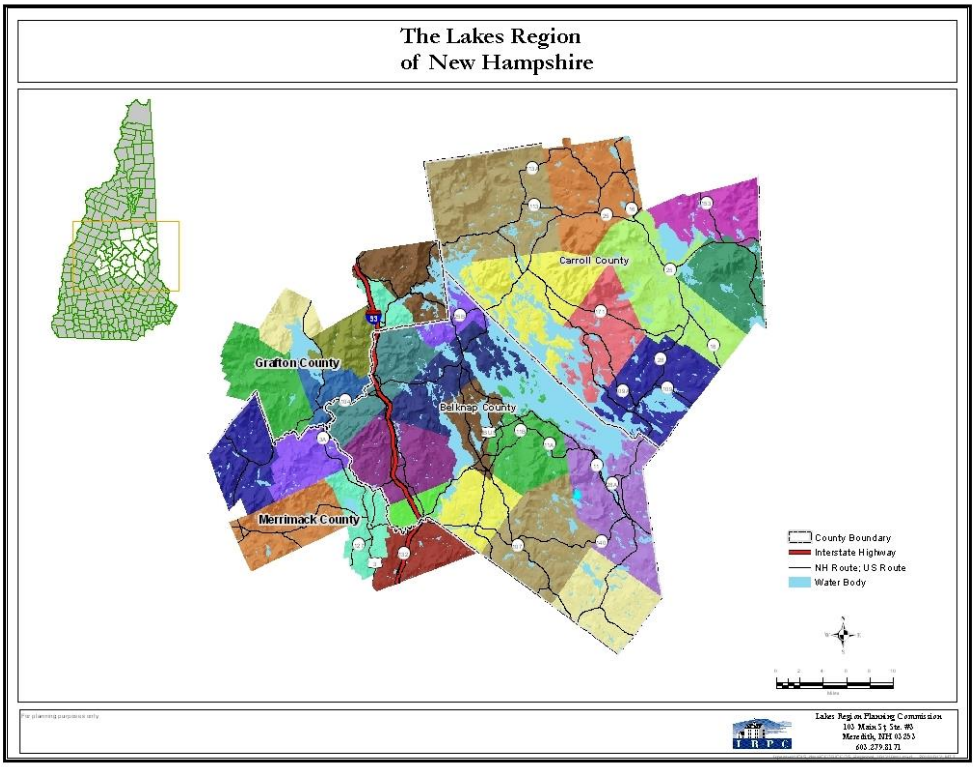
Road Surface Management System

Moultonborough, NH

The Lakes Region Planning Commission conducted a Road Inventory, Condition Assessment, and Forecasting for the town of Moultonborough, NH. This is part of a program done in partnership with the NH Department of Transportation and UNH Technology Transfer Center. Inventory and Assessments were entered into the Road Surface Management System (RSMS) software for analysis, prioritization, and generation of repair strategies. Repair strategies and a 10-year budget plan have been prepared in partnership with the town and presented within this report.



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I. Introduction

Paved roads require routine and preventative maintenance, which should be attended to before they require rehabilitation or reconstruction. Approximately 54% of the paved, town-maintained roads in Moultonborough, NH warranted some type of maintenance or repair at the time of the assessment. The needed repairs cannot all be done in one season or paid for all at once.

The town of Moultonborough engaged the Lakes Region Planning Commission to conduct a road inventory data collection, identification of pavement conditions, and operation of the Road Surface Management System (RSMS) software. This program is in partnership with NH Department of Transportation (DOT), University of New Hampshire Technology Transfer (UNH T2), and the regional planning commissions to assist communities in planning local road maintenance. Pavement and planning resources are listed and described in Appendix A.

II. RSMS Data Collection and Forecasting Program Overview

LRPC staff conducted an inventory of road conditions for all paved, town-maintained roads based on a list of roads derived from NHDOT centerline shapefiles. The field assessment considered a variety of physical characteristics including: cracking, rutting, and potholes. The roads were assessed in June 2017. The Road Agent evaluated each road segment for the relative amount of traffic that it bears and the relative importance to the town. LRPC entered the data into the RSMS program, which developed a Pavement Condition Index (PCI) and a list of maintenance and repair recommendations. Working from RSMS reports, town officials and the road agent can prepare a detailed comprehensive long-term work and budget plan.

NH DOT divided the road system into ¼ mile sections for assessment and analysis. The following tasks were conducted by LRPC using UNH T2's RSMS data collection protocols and software:

1. Drove all paved class 5 roads in town and determined and documented a variety of general characteristics and at least several physical conditions of each section.
2. Worked with the Road Agent to characterize and document the relative priority and amount of traffic for each road segment.
3. Reviewed maintenance or repair methods by category with the Road Agent.
4. Worked with the Road Agent to develop guidelines for selecting repair strategies; and applied this to all road segments.
5. Reviewed the anticipated changes in the conditions and costs.

III. Road Network Inventory and Collection Survey

Identification and Characterization of Sections

Roads were segmented into roughly quarter-mile sections by NH DOT, based mainly on road geometry. There were 159 sections defined for the 40 miles of roads assessed. Segments ranged in length from 315 to 1,969 feet, about 57% were a quarter of a mile (1,320') or less. The sections are shown in Appendix B. The town's Road Agent reviewed each segment and characterized its local importance and the relative volume of traffic that it handles, each on a five-point scale.

Pavement Condition Rating

In many New Hampshire communities rating the condition of paved road sections has been based on a process similar to "common informal practice" in which local highway personnel rely heavily on visual inspections and experience to schedule maintenance activities. One problem with the informal approach is that experience is very difficult to transfer from one person to another. It also can be difficult to objectively explain maintenance decisions to local governing bodies.

RSMS applies a comprehensive condition rating technique based on sound engineering and management practices. These techniques enable the user to draw objective, consistent, and easy-to- explain conclusions.

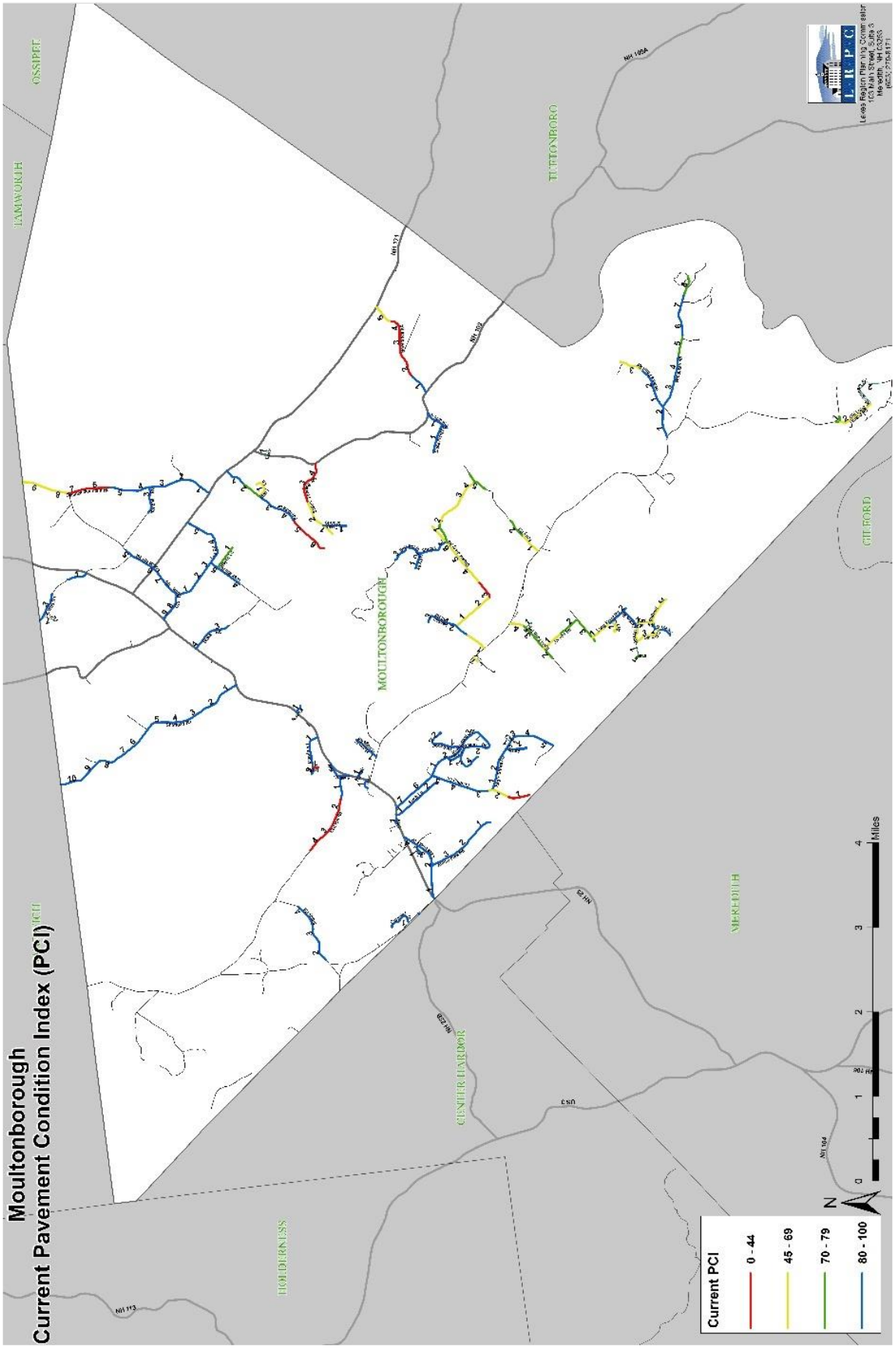
Researchers and practitioners have developed a set of pavement condition rating scales based on visual inspection. A road section is inspected, and the **severity** and **extent** of surface distresses are recorded. The RSMS distress characteristics for pavement include:

Road Pavement Distresses

- Longitudinal/transverse cracking
- Alligator cracking
- Edge cracking
- Patching/potholes
- Drainage
- Rutting
- Roughness

Personnel trained in RSMS condition assessment accurately determine assessed conditions from a vehicle, driving over each segment at least three times with closer inspection where necessary. LRPC staff used a tablet and RSMS software to enter the road condition information for each section (Appendix C). The condition information was combined with the traffic volume and importance ratings, resulting in a PCI for each segment that could range from 1 to 100 where 100 represents top condition. In Moultonborough segment Pavement Condition Indexes ranged from 27 to 100. The overall network PCI was 76. Figure 1 represents the pavement conditions at the time of the assessment, grouped into four categories.

Figure 1: Initial Pavement Condition Index (PCI)



IV. Approaching Road Repair Needs

Pavement Preservation

With time, all roads deteriorate, the exact rate will vary based on local conditions**. Pavement preservation** is a program employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that extend the pavement life, improve safety, and meet motorist expectations. Pavement preservation is a set of non-structural applications to preserve the surface, including minor rehabilitation as well as preventative and routine maintenance ranging from crack sealing to thin overlays.

All too frequently, municipal officials set priorities by the "worst first" approach; they give the most deteriorated roads the highest priorities. Such roads are also the most expensive to repair, which commits a large amount of town funds to only a few roads; communities then find that inadequate funds remain to accomplish the relatively inexpensive preventative and routine maintenance necessary to extend the life of the rest of the road network. These roads have low to moderate deterioration and can have their useful lives extended significantly at a lower cost by utilizing pavement preservation strategies. Further details on pavement preservation are available through UNH T2 and NH DOT (Appendix A).

V. Selection of Maintenance and Repair Options

Maintenance and Repair Options

In meeting with Moultonborough DPW staff, materials on a wide variety of potential repair strategies (nearly twenty) was provided and discussed (See associated document, *RSMS Repair Strategies*). Some strategies are more applicable than others based on conditions, expense, even the amount of sunshine received on site. Generally, in addition to deferred maintenance, the repairs fall into three broad types: Preservation, Repair & Overlay, and Rehabilitation & Reconstruction.

1. Deferred Maintenance: No action required. The road section is in very good condition. No cost involved.

2. Preservation Maintenance: Sealing cracks and patching potholes for specific small areas; routine maintenance should include cleaning ditches and culverts. Crack sealing, patching, ditch, and culvert cleaning, and mowing of shoulders and adjacent areas are essential to get the intended service life from a section of pavement. Examples include crack, fog, sand, and chips seals as well as isolated patch & shim.

Good Preservation Candidate Profile

- Sound structural pavement with good profile
- Minor to moderate surface distress
- PCI >60

Routine maintenance can usually be performed by the town's road crew, at relatively low cost and should be included in the town's annual budget. Roads requiring routine maintenance are slowly but surely deteriorating. Adequate funds should be made available consistently across annual budgets to ensure that roads in good condition remain so.

3. Repair and Overlay: Coating of the surface and chip seals of thin (1½ inch) overlays are used to prevent or slow further deterioration. Hot mix asphalt (HMA) overlays and milling are examples of these type of strategies.

Repair and overlay is performed on roads that are in sufficiently good condition and require inexpensive repair to extend road life. Much of the work may be within the public works department's capability.

4. Rehabilitation and Reconstruction: These include major repairs of the road surface such as an asphalt overlay after surface preparation treatments or the excavation of the road base, the replacement and often the addition of aggregate, and new paved surface. The road including its sub-base has deteriorated to such an extent that the base must be replaced or stabilized. Such conditions are usually caused by too long a period of inadequate maintenance, and by poor subsurface drainage. In the latter conditions, appropriate repair and/or new construction of ditches and culverts should be included in the project. Full Depth Reclamation (FDR) projects fall into this repair type. Contractors usually perform rehabilitation repairs.

Before town officials attempt to fund rehabilitation repairs out of annual budgets, they should consider the impact on routine and preventive maintenance. It is much less expensive in the long run to keep good roads in good condition than to let them deteriorate to the point where they need rehabilitation. On the other hand, roads needing rehabilitation are rapidly deteriorating and will become much worse quickly without adequate funding.

Reconstruction is so costly that it can absorb a large portion, if not all, of a municipality's annual budget, and therefore allow too small a budget for routine and preventative maintenance. Municipalities should consider funding this sort of work through long-term planning such as Capital Improvements Program (CIP) and use of Capital Reserve Funds and bonds. Resources for information about and assistance with CIPs are listed in Appendix A.

VI. Forecasting

In addition to generating a Pavement Condition Index for each road segment, the RSMS software forecasts what PCI could be anticipated annually if various repair strategies (or nothing at all) were applied over the next 9-10 years. The software not only projects the PCI of individual segments but also the full road network.

Based on the information entered into the RSMS Forecasting program, the tool can:

- Calculate a Pavement Condition Index (PCI)
- Calculate a road segment Priority
- Suggest maintenance/repairs
- Calculate estimated repair costs
- The amount of extended life span resulting from developed reports

The RSMS Forecasting program is not a project-level tool, its focus is on the network as a whole. It is up to the town to make decisions regarding repairs. It provides a set of recommended repair alternatives consistent with the repair strategy for each road section's drainage and condition. The program lists twenty different maintenance and repair options.

Five of those options are ones that are typically used in Moultonborough (Crack Seal, Reclaim and Pave (8"), HMA Overlay (1.25"), Asphalt Rubber SAM, and FDR and HMA (3")) and were utilized in this forecasting process. After LRPC staff reviewed repair strategies and budgets, an RSMS forecast for Moultonborough was drafted and then refined through correspondence with the Town Road Agent. The steps taken in the forecasting process were:

1. Year 2017 in the forecast includes the repairs during the year of the assessments. Forecasting for year 2018 was mostly created by the Road Agent which included work that has already been scheduled and many roads that need preventative maintenance such as crack sealing.
2. Higher priority roads that are in good/great condition but need some preventative maintenance.
3. Roads that were in fair/poor condition but are high priority were selected for Reclaim and Pave (8") and FDR (3"). For example, Shaker Jerry Road is a busy road that needed rehabilitation and rebuilding.
4. Parts of town that did not need maintenance immediately were assigned in this step. These roads were addressed so road work would be spread out over the entire town.

5. Some of the roads in poor condition that were low in priority were postponed so they could be addressed with rehabilitation and rebuilding in later years.
6. The remaining road segments were of low priority and PCI.

VII. Conclusion

The resulting schedule of maintenance and repair strategies (Appendix D) addresses the priorities listed above while staying close to the stated budget. This is projected to gradually raise the PCI for the town road network from 76 to 88 (Appendix E).

The “reports” list the actions to be taken each year, the associated costs, and the resulting network PCI. Maps in Appendix F show the anticipated PCI for each segment in 2022 and 2027 based on this schedule.

The schedule provides a guide for the town to follow utilizing pavement maintenance and repair strategies that have been employed by the town DPW in the past. To keep this plan current, it is recommended that all road surface work be tracked annually and that the condition assessment be repeated in five years.

Appendix A
Useful Resources

University of New Hampshire Technology Transfer (UNH T²)

- SADES (Statewide Asset Data Exchange System)- Establishes a primary transportation inventory of assets including a maintainable condition assessment process for many state and local agencies.
    - https://t2.unh.edu/sades-0
- Road Scholar Program- The Roads Scholar Program establishes educational and training requirements for municipal level highway practitioners, and recognizes those who have successfully completed specified T2 Center workshops.
    - https://t2.unh.edu/roads-scholar-program
- T2 Workshops- Provides workshops relative to roadway materials, basics of a good road, maintenance techniques, drainage techniques, and many other technical assistance topics.
    - https://t2.unh.edu/workshop-descriptions

New Hampshire Department of Transportation (NH DOT)

- Provides information and support regarding statewide and municipal transportation projects
    - https://www.nh.gov/dot/projects/index.htm

New Hampshire Municipal Association (NHMA)

- Provides information about the benefits of implementing a Capital Improvement Plan
    - https://www.nhmunicipal.org/TownAndCity/Article/586

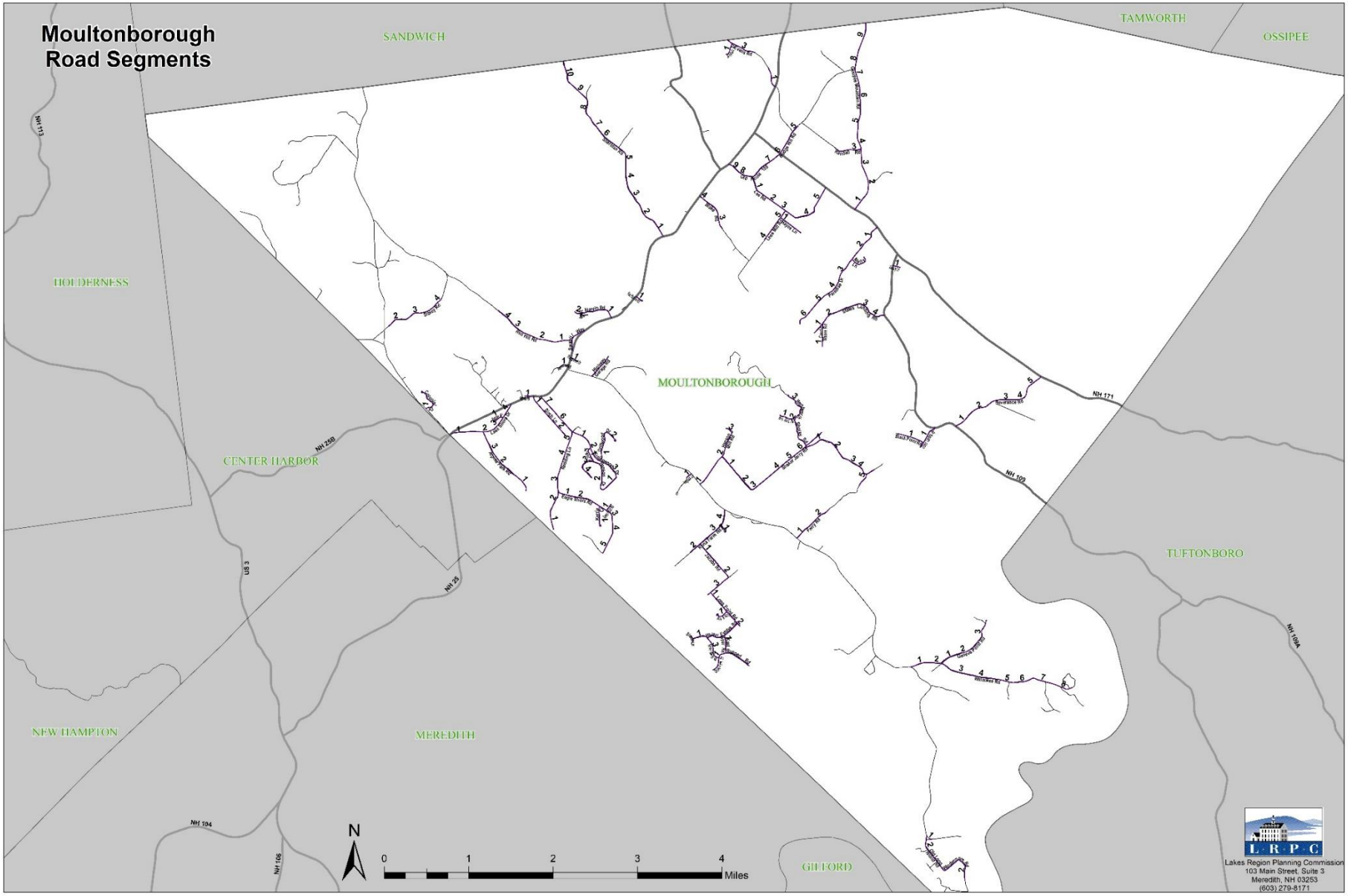
Lakes Region Planning Commission (LRPC)

- Provides more information about the SADES program that LRPC participates in and other transportation services provided by LRPC
- Can assist municipalities in establishing a Capital Improvement Program

https://www.lakesrpc.org/servicestransportation.asp

Appendix B

Map of Road Segments



Appendix C

SADES Road Surface Management System Specification Guide

1) General Information
    a. Assessment Date
    b. Observer(s)/Organization
    c. Road Name
    d. Road Alias
    e. Town Name
    f. Surface Type
    g. Shoulder Type
    h. Road Surface Width
    i. Number of Lanes
    j. Last Year Surveyed
2) Longitudinal/Transverse Cracking
    a. Severity
    b. Extent
3) Alligator Cracking
    a. Severity
    b. Extent
4) Edge Cracking
    a. Severity
    b. Extent
5) Patching/Potholes
    a. Extent
6) Drainage
    a. Condition
7) Rutting
    a. Severity
    b. Extent
8) Roughness
    a. Condition
9) Frost Heave
    a. Severity
10) Factors
    a. Traffic Volume
    b. Importance
11) Local Knowledge
    a. Interview with Local Knowledge
    b. Interview Comments
12) General Comments

Appendix D

Repair Detail by Year

Repair Detail By Year

Year	Street	SRI	Order ID	Repair Category	Repair	Miles	Cost
2017	Estella Ln	L3130146__	1	Rehabilitate and	FDR & HMA (3")	0.06	$8,687.58
	Marvin Rd	L3130147__	1	Overlays	HMA Overlay (1.25")	0.25	$16,304.24
	Marvin Rd	L3130147__	2	Overlays	HMA Overlay (1.25")	0.25	$16,477.30
	Paradise Dr	L3130149__	5	Rehabilitate and	FDR & HMA (3")	0.25	$59,853.69
	Paradise Dr	L3130149__	6	Rehabilitate and	FDR & HMA (3")	0.26	$62,617.57
	Redding Ln	L3130075__	1	Rehabilitate and	FDR & HMA (3")	0.25	$46,806.56
	Redding Ln	L3130075__	2	Rehabilitate and	FDR & HMA (3")	0.25	$46,877.48
	Shaker Jerry Rd	L3130071__	1	Rehabilitate and	FDR & HMA (3")	0.25	$57,164.68
	Shaker Jerry Rd	L3130072__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$39,722.71
	Shaker Jerry Rd	L3130072__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$39,692.64
	Shaker Jerry Rd	L3130071__	2	Rehabilitate and	FDR & HMA (3")	0.25	$57,251.36
	Shaker Jerry Rd	L3130071__	3	Rehabilitate and	FDR & HMA (3")	0.25	$57,251.36
					Total for Year 2017	2.82	$508,707.17
2018	Ben Berry Rd	L3130088__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$40,993.84
	Ben Berry Rd	L3130088__	2	Rehabilitate and	8" Reclaim and Pave	0.35	$57,534.13
	Black Point Rd	L3130105__	1	Crack Sealing	Crack Seal (Major)	0.35	$2,135.69
	Bodge Hill Rd	L3130087__	5	Crack Sealing	Crack Seal (Major)	0.25	$1,806.88
	Bodge Hill Rd	L3130087__	6	Crack Sealing	Crack Seal (Major)	0.25	$1,805.51
	Clarks Landing Rd	L3130082__	1	Crack Sealing	Crack Seal (Major)	0.29	$1,808.83
	Driftwood Dr	L3130151__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,805.51
	Driftwood Dr	L3130151__	2	Crack Sealing	Crack Seal (Major)	0.31	$2,226.48
	Evans Rd	L3130089__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$55,858.37
	Evans Rd	L3130089__	3	Rehabilitate and	8" Reclaim and Pave	0.36	$58,775.42
	Fox Hollow Rd	L3130157__	1	Crack Sealing	Crack Seal (Major)	0.09	$559.98
	Hanson Mill Rd	L3130072__	3	Crack Sealing	Crack Seal (Major)	0.33	$2,497.17
	Kerrie Ct	L3130187__	1	Crack Sealing	Crack Seal (Major)	0.28	$2,090.52
	Kona Farm Rd	L3130111__	2	Crack Sealing	Crack Seal (Major)	0.25	$1,980.46
	Kona Farm Rd	L3130111__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,971.48
	Kona Farm Rd	L3130111__	4	Crack Sealing	Crack Seal (Major)	0.18	$1,416.11

Repair Detail By Year

Krainewood Dr	L3130142__	1	Overlays	HMA Overlay (1.25")	0.25	$16,073.34
Krainewood Dr	L3130142__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,804.15
Krainewood Dr	L3130142__	2	Crack Sealing	Crack Seal (Major)	0.25	$1,804.15
Krainewood Dr	L3130142__	2	Overlays	HMA Overlay (1.25")	0.25	$16,073.34
Krainewood Dr	L3130142__	3	Overlays	HMA Overlay (1.25")	0.29	$18,703.52
Krainewood Dr	L3130142__	3	Crack Sealing	Crack Seal (Major)	0.29	$2,099.37
Paradise Dr	L3130149__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,060.32
Paradise Dr	L3130149__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,058.76
Paradise Dr	L3130149__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,977.47
Paradise Dr	L3130149__	4	Crack Sealing	Crack Seal (Major)	0.25	$1,974.47
Red Hill Rd	L3130093__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,890.06
Red Hill Rd	L3130093__	2	Rehabilitate and	FDR & HMA (3")	0.25	$59,083.40
Red Hill Rd	L3130093__	3	Rehabilitate and	FDR & HMA (3")	0.25	$58,993.95
Red Hill Rd	L3130093__	4	Rehabilitate and	FDR & HMA (3")	0.25	$59,038.68
Severance Rd	L3130083__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,716.93
Severance Rd	L3130083__	2	Rehabilitate and	FDR & HMA (3")	0.25	$53,630.86
Severance Rd	L3130083__	3	Rehabilitate and	FDR & HMA (3")	0.25	$53,752.85
Severance Rd	L3130083__	4	Rehabilitate and	FDR & HMA (3")	0.25	$53,712.18
Severance Rd	L3130083__	5	Rehabilitate and	8" Reclaim and Pave	0.25	$37,972.41
Shaker Jerry Rd	L3130070__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$40,962.81
Shaker Jerry Rd	L3130070__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$40,900.74
Shaker Jerry Rd	L3130070__	3	Rehabilitate and	8" Reclaim and Pave	0.25	$40,962.81
Shaker Jerry Rd	L3130070__	4	Rehabilitate and	8" Reclaim and Pave	0.17	$27,867.12
Shaker Jerry Rd	L3130071__	4	Rehabilitate and	FDR & HMA (3")	0.25	$58,904.50
Shaker Jerry Rd	L3130071__	5	Rehabilitate and	FDR & HMA (3")	0.25	$59,083.40
Shaker Jerry Rd	L3130071__	6	Rehabilitate and	FDR & HMA (3")	0.36	$84,130.12
Sheridan Rd	L3130092__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,719.54
Sheridan Rd	L3130092__	2	Crack Sealing	Crack Seal (Major)	0.25	$1,719.54
Sheridan Rd	L3130092__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,716.93
Sheridan Rd	L3130092__	4	Crack Sealing	Crack Seal (Major)	0.25	$1,716.93

Repair Detail By Year

	Sheridan Rd	L3130092__	5	Crack Sealing	Crack Seal (Major)	0.25	$1,716.93
	Sheridan Rd	L3130092__	6	Crack Sealing	Crack Seal (Major)	0.25	$1,716.93
	Sheridan Rd	L3130092__	7	Crack Sealing	Crack Seal (Major)	0.25	$1,716.93
	Sheridan Rd	L3130092__	8	Crack Sealing	Crack Seal (Major)	0.25	$1,718.23
	Sheridan Rd	L3130092__	9	Crack Sealing	Crack Seal (Major)	0.25	$1,718.23
	Sheridan Rd	L3130092__	10	Crack Sealing	Crack Seal (Major)	0.28	$1,952.54
	Sibley Rd	L3130097__	2	Crack Sealing	Crack Seal (Major)	0.25	$1,891.49
	Sibley Rd	L3130097__	2	Overlays	HMA Overlay (1.25")	0.25	$16,851.49
	Sibley Rd	L3130097__	3	Overlays	HMA Overlay (1.25")	0.25	$16,838.73
	Sibley Rd	L3130097__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,890.06
	Sibley Rd	L3130097__	4	Crack Sealing	Crack Seal (Major)	0.25	$1,885.76
	Sibley Rd	L3130097__	4	Overlays	HMA Overlay (1.25")	0.25	$16,800.46
	Wentworth Shores Rd	L3130115__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,887.19
	Wentworth Shores Rd	L3130115__	2	Crack Sealing	Crack Seal (Major)	0.25	$1,891.49
	Wentworth Shores Rd	L3130115__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,891.49
					Total for Year 2018	15.68	$1,111,738.98
2019	Ames Rd	L3130117__	1	Crack Sealing	Crack Seal (Major)	0.26	$1,390.36
	Black Point Rd	L3130105__	1	Pavement	Asphalt Rubber SAM	0.35	$18,634.11
	Blake Rd	L3130079__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,863.29
	Blake Rd	L3130079__	4	Crack Sealing	Crack Seal (Major)	0.24	$1,796.99
	Clarks Landing Rd	L3130082__	1	Pavement	Asphalt Rubber SAM	0.29	$15,782.26
	Driftwood Dr	L3130151__	1	Pavement	Asphalt Rubber SAM	0.25	$15,753.30
	Driftwood Dr	L3130151__	2	Pavement	Asphalt Rubber SAM	0.31	$19,426.29
	Fox Hollow Rd	L3130157__	1	Overlays	HMA Overlay (1.25")	0.09	$5,148.64
	Geneva Point Rd	L3130066__	3	Rehabilitate and	FDR & HMA (3")	0.30	$43,776.20
	Hanson Mill Rd	L3130072__	3	Overlays	HMA Overlay (1.25")	0.33	$22,959.46
	Hauser Estates Rd	L3130134__	1	Crack Sealing	Crack Seal (Minor)	0.25	$1,418.57
	Hauser Estates Rd	L3130135__	1	Crack Sealing	Crack Seal (Major)	0.19	$1,465.86
	Jacobs Rd	L3130123__	1	Rehabilitate and	FDR & HMA (3")	0.25	$60,974.07
	Jacobs Rd	L3130123__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$42,273.62

Repair Detail By Year

Jacobs Rd	L3130123__	3	Rehabilitate and	8" Reclaim and Pave	0.35	$58,638.63
Kona Farm Rd	L3130111__	2	Overlays	HMA Overlay (1.25")	0.25	$18,208.75
Kona Farm Rd	L3130111__	3	Overlays	HMA Overlay (1.25")	0.25	$18,126.17
Kona Farm Rd	L3130111__	4	Overlays	HMA Overlay (1.25")	0.18	$13,020.01
Myers Rd	L3130108__	1	Crack Sealing	Crack Seal (Major)	0.06	$452.70
Old Route 109	L3130087__	7	Crack Sealing	Crack Seal (Major)	0.25	$1,863.29
Old Route 109	L3130087__	8	Crack Sealing	Crack Seal (Major)	0.25	$1,770.53
Old Route 109	L3130087__	9	Crack Sealing	Crack Seal (Major)	0.15	$1,041.09
Ossipee Mountain Rd	L3130085__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,861.88
Ossipee Mountain Rd	L3130085__	2	Crack Sealing	Crack Seal (Major)	0.25	$1,861.88
Ossipee Mountain Rd	L3130085__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,861.88
Ossipee Mountain Rd	L3130085__	4	Crack Sealing	Crack Seal (Major)	0.25	$1,863.29
Ossipee Mountain Rd	L3130085__	5	Crack Sealing	Crack Seal (Major)	0.25	$1,860.47
Paradise Dr	L3130149__	1	Overlays	HMA Overlay (1.25")	0.25	$18,942.99
Paradise Dr	L3130149__	2	Overlays	HMA Overlay (1.25")	0.25	$18,928.63
Paradise Dr	L3130149__	3	Overlays	HMA Overlay (1.25")	0.25	$18,181.23
Paradise Dr	L3130149__	4	Overlays	HMA Overlay (1.25")	0.25	$18,153.70
Playground Dr	L3130143__	1	Crack Sealing	Crack Seal (Major)	0.10	$828.57
Randall Rd	L3130086__	3	Crack Sealing	Crack Seal (Major)	0.32	$2,135.05
Redding Ln	L3130075__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,775.90
Redding Ln	L3130075__	4	Crack Sealing	Crack Seal (Major)	0.25	$1,773.22
Redding Ln	L3130075__	5	Crack Sealing	Crack Seal (Major)	0.25	$1,773.22
Redding Ln	L3130075__	6	Crack Sealing	Crack Seal (Major)	0.25	$1,773.22
Redding Ln	L3130075__	7	Crack Sealing	Crack Seal (Major)	0.27	$1,919.64
Sheridan Rd	L3130092__	1	Pavement	Asphalt Rubber SAM	0.25	$15,003.14
Sheridan Rd	L3130092__	2	Pavement	Asphalt Rubber SAM	0.25	$15,003.14
Sheridan Rd	L3130092__	3	Pavement	Asphalt Rubber SAM	0.25	$14,980.43
Sheridan Rd	L3130092__	4	Pavement	Asphalt Rubber SAM	0.25	$14,980.43
Sheridan Rd	L3130092__	5	Pavement	Asphalt Rubber SAM	0.25	$14,980.43
Sheridan Rd	L3130092__	6	Pavement	Asphalt Rubber SAM	0.25	$14,980.43

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	Sheridan Rd	L3130092__	7	Pavement	Asphalt Rubber SAM	0.25	$14,980.43
	Sheridan Rd	L3130092__	8	Pavement	Asphalt Rubber SAM	0.25	$14,991.78
	Sheridan Rd	L3130092__	9	Pavement	Asphalt Rubber SAM	0.25	$14,991.78
	Sheridan Rd	L3130092__	10	Pavement	Asphalt Rubber SAM	0.28	$17,036.12
	Wentworth Shores Rd	L3130115__	1	Overlays	HMA Overlay (1.25")	0.25	$17,351.24
	Wentworth Shores Rd	L3130115__	2	Overlays	HMA Overlay (1.25")	0.25	$17,390.74
	Wentworth Shores Rd	L3130115__	3	Overlays	HMA Overlay (1.25")	0.25	$17,390.74
	Winaukee Rd	L3130065__	1	Pavement	Asphalt Rubber SAM	0.25	$16,490.96
	Winaukee Rd	L3130065__	2	Pavement	Asphalt Rubber SAM	0.25	$16,503.46
	Winaukee Rd	L3130065__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,950.54
	Winaukee Rd	L3130065__	4	Pavement	Asphalt Rubber SAM	0.25	$16,490.96
	Winaukee Rd	L3130065__	5	Rehabilitate and	8" Reclaim and Pave	0.25	$42,273.62
	Winaukee Rd	L3130065__	6	Pavement	Asphalt Rubber SAM	0.25	$16,503.46
	Winaukee Rd	L3130065__	7	Pavement	Asphalt Rubber SAM	0.25	$16,515.95
	Winaukee Rd	L3130065__	8	Rehabilitate and	8" Reclaim and Pave	0.25	$42,177.54
					Total for Year 2019	14.57	$834,246.28
2020	Bentley Rd	L3130156__	1	Crack Sealing	Crack Seal (Major)	0.16	$1,325.20
	Blake Rd	L3130079__	3	Pavement	Asphalt Rubber SAM	0.25	$16,257.40
	Blake Rd	L3130079__	4	Pavement	Asphalt Rubber SAM	0.24	$15,678.98
	Bos N Way	L3130154__	1	Rehabilitate and	FDR & HMA (3")	0.19	$44,605.43
	Cooks Point Rd	L3130136__	1	Rehabilitate and	8" Reclaim and Pave	0.27	$47,658.51
	East Spur Rd	L3130180__	1	Rehabilitate and	8" Reclaim and Pave	0.21	$37,247.67
	Hauser Estates Rd	L3130135__	1	Overlays	HMA Overlay (1.25")	0.19	$13,477.41
	Hauser Estates Rd	L3130134__	1	Overlays	HMA Overlay (1.25")	0.25	$17,933.66
	Hauser Estates Rd	L3130134__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$43,725.52
	Highway Garage Rd	L3130158__	1	Rehabilitate and	8" Reclaim and Pave	0.31	$54,070.26
	Lake Shore Dr	L3130131__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,012.96
	Lake Shore Dr	L3130131__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,011.43
	Lake Shore Dr	L3130131__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,016.01
	Lake Shore Dr	L3130131__	4	Crack Sealing	Crack Seal (Major)	0.13	$1,046.13

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	Lees Mill Rd	L3130080__	4	Crack Sealing	Crack Seal (Major)	0.25	$1,828.57
	Lees Mill Rd	L3130080__	5	Crack Sealing	Crack Seal (Major)	0.18	$1,297.61
	Long Point Rd	L3130133__	1	Rehabilitate and	FDR & HMA (3")	0.25	$62,877.61
	Long Point Rd	L3130133__	2	Rehabilitate and	FDR & HMA (3")	0.28	$69,689.35
	Myers Rd	L3130108__	1	Overlays	HMA Overlay (1.25")	0.06	$4,162.28
	Old Route 109	L3130087__	7	Overlays	HMA Overlay (1.25")	0.25	$17,131.46
	Old Route 109	L3130087__	8	Overlays	HMA Overlay (1.25")	0.25	$16,278.62
	Old Route 109	L3130087__	9	Overlays	HMA Overlay (1.25")	0.15	$9,572.03
	Ossipee Mountain Rd	L3130085__	6	Rehabilitate and	FDR & HMA (3")	0.25	$59,974.07
	Ossipee Mountain Rd	L3130085__	7	Rehabilitate and	FDR & HMA (3")	0.25	$60,019.54
	Ossipee Mountain Rd	L3130085__	8	Rehabilitate and	FDR & HMA (3")	0.25	$59,974.07
	Ossipee Mountain Rd	L3130085__	9	Rehabilitate and	FDR & HMA (3")	0.32	$76,070.22
	Rocky Winds Rd	L3130134__	3	Rehabilitate and	8" Reclaim and Pave	0.23	$39,792.54
	Ruppert Rd	L3130137__	1	Rehabilitate and	8" Reclaim and Pave	0.33	$57,474.44
	Slade Ln	L3130188__	1	Rehabilitate and	8" Reclaim and Pave	0.09	$14,575.17
					Total for Year 2020	6.58	$849,784.15
2021	Bentley Rd	L3130156__	1	Overlays	HMA Overlay (1.25")	0.16	$12,184.12
	Castle Shore Rd	L3130162__	1	Crack Sealing	Crack Seal (Major)	0.28	$1,987.09
	Ferry Rd	L3130069__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$36,808.61
	Ferry Rd	L3130069__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$36,808.61
	Ferry Rd	L3130069__	5	Rehabilitate and	8" Reclaim and Pave	0.28	$42,889.12
	Iroquois Ln	L3130073__	1	Rehabilitate and	8" Reclaim and Pave	0.07	$9,326.95
	Lake Shore Dr	L3130131__	1	Overlays	HMA Overlay (1.25")	0.25	$18,507.53
	Lake Shore Dr	L3130131__	2	Overlays	HMA Overlay (1.25")	0.25	$18,493.51
	Lake Shore Dr	L3130131__	3	Overlays	HMA Overlay (1.25")	0.25	$18,535.58
	Lake Shore Dr	L3130131__	4	Overlays	HMA Overlay (1.25")	0.13	$9,618.31
	Lee Rd	L3130081__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$40,867.45
	Lee Rd	L3130081__	2	Crack Sealing	Crack Seal (Major)	0.25	$1,889.95
	Lee Rd	L3130081__	3	Crack Sealing	Crack Seal (Major)	0.25	$1,887.09
	Lee Rd	L3130081__	4	Crack Sealing	Crack Seal (Major)	0.25	$1,888.52

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	Lee Rd	L3130081__	5	Crack Sealing	Crack Seal (Major)	0.29	$2,160.35
	Lees Mill Rd	L3130080__	4	Overlays	HMA Overlay (1.25")	0.25	$16,812.28
	Lees Mill Rd	L3130080__	5	Overlays	HMA Overlay (1.25")	0.18	$11,930.47
	Old Long Island Rd	L3130060__	1	Rehabilitate and	FDR & HMA (3")	0.25	$56,041.10
	Old Long Island Rd	L3130127__	1	Rehabilitate and	FDR & HMA (3")	0.12	$26,661.97
	Old Long Island Rd	L3130060__	2	Rehabilitate and	FDR & HMA (3")	0.19	$43,686.58
	Sawmill Way	L3130077__	1	Crack Sealing	Crack Seal (Major)	0.32	$2,410.72
	States Landing Rd	L3130043__	1	Rehabilitate and	FDR & HMA (3")	0.25	$70,788.76
	States Landing Rd	L3130043__	2	Rehabilitate and	FDR & HMA (3")	0.25	$70,896.01
	States Landing Rd	L3130043__	3	Rehabilitate and	FDR & HMA (3")	0.25	$70,735.13
	States Landing Rd	L3130043__	4	Rehabilitate and	FDR & HMA (3")	0.27	$75,668.89
					Total for Year 2021	5.78	$699,484.7
2022	Alpine Park Rd	L3130078__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,852.91
	Alpine Park Rd	L3130078__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,142.22
	Alpine Park Rd	L3130078__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,140.60
	Alpine Park Rd	L3130078__	4	Crack Sealing	Crack Seal (Major)	0.14	$1,164.50
	Ben Berry Rd	L3130088__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,145.47
	Ben Berry Rd	L3130088__	2	Crack Sealing	Crack Seal (Major)	0.35	$3,011.13
	Birch Ln	L3130144__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$44,351.17
	Birch Ln	L3130144__	2	Rehabilitate and	8" Reclaim and Pave	0.37	$66,157.17
	Bodge Hill Rd	L3130087__	5	Crack Sealing	Crack Seal (Major)	0.25	$2,049.50
	Bodge Hill Rd	L3130087__	6	Crack Sealing	Crack Seal (Major)	0.25	$2,047.95
	Butternut Ln	L3130150__	1	Crack Sealing	Crack Seal (Major)	0.19	$1,562.70
	Castle Shore Rd	L3130162__	1	Pavement	Asphalt Rubber SAM	0.28	$17,337.62
	Colonial Dr	L3130163__	1	Rehabilitate and	8" Reclaim and Pave	0.35	$59,294.90
	Evans Rd	L3130089__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,923.43
	Evans Rd	L3130089__	3	Crack Sealing	Crack Seal (Major)	0.36	$3,076.10
	Kerrie Ct	L3130187__	1	Crack Sealing	Crack Seal (Major)	0.28	$2,371.23
	Lee Rd	L3130081__	2	Pavement	Asphalt Rubber SAM	0.25	$16,490.02
	Lee Rd	L3130081__	3	Pavement	Asphalt Rubber SAM	0.25	$16,465.06

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	Lee Rd	L3130081__	4	Pavement	Asphalt Rubber SAM	0.25	$16,477.54
	Lee Rd	L3130081__	5	Pavement	Asphalt Rubber SAM	0.29	$18,849.31
	Melly Ln	L3130185__	1	Rehabilitate and	FDR & HMA (3")	0.25	$58,053.48
	Red Hill Rd	L3130093__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,145.47
	Red Hill Rd	L3130093__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,142.22
	Red Hill Rd	L3130093__	4	Crack Sealing	Crack Seal (Major)	0.25	$2,143.85
	Redding Ln	L3130075__	1	Crack Sealing	Crack Seal (Major)	0.25	$1,754.06
	Redding Ln	L3130075__	2	Crack Sealing	Crack Seal (Major)	0.25	$1,756.71
	Sawmill Way	L3130077__	1	Pavement	Asphalt Rubber SAM	0.32	$21,033.83
	Sibley Rd	L3130097__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$46,498.33
	Sibley Rd	L3130097__	3	Rehabilitate and	8" Reclaim and Pave	0.25	$46,463.13
	Sibley Rd	L3130097__	4	Rehabilitate and	8" Reclaim and Pave	0.25	$46,357.54
					Total for Year 2022	7.92	$510,259.15
2023	Alpine Park Rd	L3130078__	1	Overlays	HMA Overlay (1.25")	0.25	$17,036.00
	Alpine Park Rd	L3130078__	2	Overlays	HMA Overlay (1.25")	0.25	$19,696.04
	Alpine Park Rd	L3130078__	3	Overlays	HMA Overlay (1.25")	0.25	$19,681.10
	Alpine Park Rd	L3130078__	4	Overlays	HMA Overlay (1.25")	0.14	$10,706.64
	Ben Berry Rd	L3130088__	1	Pavement	Asphalt Rubber SAM	0.25	$18,719.48
	Ben Berry Rd	L3130088__	2	Pavement	Asphalt Rubber SAM	0.35	$26,272.45
	Black Point Rd	L3130105__	1	Crack Sealing	Crack Seal (Minor)	0.35	$1,818.17
	Bodge Hill Rd	L3130087__	5	Overlays	HMA Overlay (1.25")	0.25	$18,843.52
	Bodge Hill Rd	L3130087__	6	Overlays	HMA Overlay (1.25")	0.25	$18,829.27
	Bos N Way	L3130154__	1	Crack Sealing	Crack Seal (Minor)	0.19	$1,141.46
	Butternut Ln	L3130150__	1	Pavement	Asphalt Rubber SAM	0.19	$13,634.78
	Clarks Landing Rd	L3130082__	1	Crack Sealing	Crack Seal (Minor)	0.29	$1,539.90
	Cooks Point Rd	L3130136__	1	Crack Sealing	Crack Seal (Minor)	0.27	$1,757.77
	Eagle Shore Rd	L3130215__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$45,805.08
	Eagle Shore Rd	L3130215__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$45,805.08
	Eagle Shore Rd	L3130215__	3	Rehabilitate and	8" Reclaim and Pave	0.25	$45,735.74
	Eagle Shore Rd	L3130215__	4	Rehabilitate and	8" Reclaim and Pave	0.25	$45,770.41

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	Eagle Shore Rd	L3130215__	5	Rehabilitate and	8" Reclaim and Pave	0.20	$37,309.82
	East Spur Rd	L3130180__	1	Crack Sealing	Crack Seal (Minor)	0.21	$1,373.79
	Estella Ln	L3130146__	1	Crack Sealing	Crack Seal (Major)	0.06	$335.98
	Evans Rd	L3130089__	1	Pavement	Asphalt Rubber SAM	0.25	$25,507.24
	Evans Rd	L3130089__	3	Pavement	Asphalt Rubber SAM	0.36	$26,839.28
	Ferry Rd	L3130069__	1	Crack Sealing	Crack Seal (Minor)	0.25	$1,315.50
	Ferry Rd	L3130069__	2	Crack Sealing	Crack Seal (Minor)	0.25	$1,315.50
	Ferry Rd	L3130069__	5	Crack Sealing	Crack Seal (Minor)	0.28	$1,532.81
	Geneva Point Rd	L3130066__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$47,913.63
	Geneva Point Rd	L3130066__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$47,913.63
	Geneva Point Rd	L3130066__	3	Crack Sealing	Crack Seal (Major)	0.30	$1,589.63
	Hanson Dr	L3130152__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$45,805.08
	Hanson Dr	L3130152__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$45,805.08
	Hanson Dr	L3130152__	3	Rehabilitate and	8" Reclaim and Pave	0.25	$45,805.08
	Hanson Dr	L3130152__	4	Rehabilitate and	8" Reclaim and Pave	0.22	$40,291.83
	Hauser Estates Rd	L3130134__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,217.48
	Hayes Ln	L3130164__	1	Rehabilitate and	8" Reclaim and Pave	0.30	$52,110.90
	Kerrie Ct	L3130187__	1	Pavement	Asphalt Rubber SAM	0.28	$20,689.20
	Krainewood Dr	L3130142__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,111.88
	Krainewood Dr	L3130142__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,111.88
	Krainewood Dr	L3130142__	3	Crack Sealing	Crack Seal (Major)	0.29	$2,457.47
	Redding Ln	L3130075__	1	Pavement	Asphalt Rubber SAM	0.25	$15,304.34
	Redding Ln	L3130075__	2	Pavement	Asphalt Rubber SAM	0.25	$15,327.53
	Rocky Winds Rd	L3130134__	3	Crack Sealing	Crack Seal (Minor)	0.23	$1,467.65
	Ruppert Rd	L3130137__	1	Crack Sealing	Crack Seal (Minor)	0.33	$2,119.81
	Severance Rd	L3130083__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,009.80
	Severance Rd	L3130083__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,014.37
	Severance Rd	L3130083__	4	Crack Sealing	Crack Seal (Major)	0.25	$2,012.84
	Slade Ln	L3130188__	1	Crack Sealing	Crack Seal (Minor)	0.09	$537.57
					Total for Year 2023	11.42	$845,939.49

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2024	Ames Rd	L3130117__	1	Pavement	Asphalt Rubber SAM	0.26	$13,759.99
	Black Point Rd	L3130105__	1	Overlays	HMA Overlay (1.25")	0.35	$22,985.30
	Bos N Way	L3130154__	1	Overlays	HMA Overlay (1.25")	0.19	$14,430.43
	Brae Burn Rd	L3130153__	1	Rehabilitate and	8" Reclaim and Pave	0.19	$37,563.12
	Clarks Landing Rd	L3130082__	1	Overlays	HMA Overlay (1.25")	0.29	$19,467.53
	Cooks Point Rd	L3130136__	1	Overlays	HMA Overlay (1.25")	0.27	$22,221.79
	Driftwood Dr	L3130151__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,181.12
	Driftwood Dr	L3130151__	2	Crack Sealing	Crack Seal (Major)	0.31	$2,689.66
	East Spur Rd	L3130180__	1	Overlays	HMA Overlay (1.25")	0.21	$17,367.51
	Estella Ln	L3130146__	1	Overlays	HMA Overlay (1.25")	0.06	$3,089.08
	Ferry Rd	L3130069__	1	Pavement	Asphalt Rubber SAM	0.25	$15,782.11
	Ferry Rd	L3130069__	2	Pavement	Asphalt Rubber SAM	0.25	$15,782.11
	Ferry Rd	L3130069__	5	Pavement	Asphalt Rubber SAM	0.28	$18,389.20
	Geneva Point Rd	L3130066__	3	Pavement	Asphalt Rubber SAM	0.30	$13,869.67
	Hauser Estates Rd	L3130134__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,283.25
	Hauser Estates Rd	L3130135__	1	Crack Sealing	Crack Seal (Major)	0.19	$1,715.90
	Highway Garage Rd	L3130158__	1	Crack Sealing	Crack Seal (Major)	0.31	$2,829.85
	Iroquois Ln	L3130073__	1	Crack Sealing	Crack Seal (Major)	0.07	$473.00
	Jacobs Rd	L3130123__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,283.25
	Jacobs Rd	L3130123__	3	Crack Sealing	Crack Seal (Major)	0.35	$3,167.15
	Kona Farm Rd	L3130111__	2	Pavement	Asphalt Rubber SAM	0.25	$20,227.19
	Kona Farm Rd	L3130111__	3	Pavement	Asphalt Rubber SAM	0.25	$20,135.46
	Kona Farm Rd	L3130111__	4	Pavement	Asphalt Rubber SAM	0.18	$14,463.28
	Krainewood Dr	L3130142__	1	Overlays	HMA Overlay (1.25")	0.25	$19,417.10
	Krainewood Dr	L3130142__	2	Overlays	HMA Overlay (1.25")	0.25	$19,417.10
	Krainewood Dr	L3130142__	3	Overlays	HMA Overlay (1.25")	0.29	$22,594.44
	Lake Shore Dr	L3130131__	3	Pavement	Asphalt Rubber SAM	0.25	$19,333.12
	Lake Shore Dr	L3130131__	4	Pavement	Asphalt Rubber SAM	0.13	$10,032.16
	Long Point Rd	L3130133__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,283.25
	Long Point Rd	L3130133__	2	Crack Sealing	Crack Seal (Major)	0.28	$2,530.60

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	Marvin Rd	L3130147__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$49,446.86
	Marvin Rd	L3130147__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$49,971.70
	Myers Rd	L3130108__	1	Pavement	Asphalt Rubber SAM	0.06	$4,480.30
	Myers Rd	L3130108__	1	Crack Sealing	Crack Seal (Major)	0.06	$529.92
	Ossipee Mountain Rd	L3130085__	1	Pavement	Asphalt Rubber SAM	0.25	$18,426.43
	Ossipee Mountain Rd	L3130085__	2	Pavement	Asphalt Rubber SAM	0.25	$18,426.43
	Ossipee Mountain Rd	L3130085__	3	Pavement	Asphalt Rubber SAM	0.25	$18,426.43
	Ossipee Mountain Rd	L3130085__	4	Pavement	Asphalt Rubber SAM	0.25	$18,440.39
	Ossipee Mountain Rd	L3130085__	5	Pavement	Asphalt Rubber SAM	0.25	$18,412.47
	Ossipee Mountain Rd	L3130085__	6	Crack Sealing	Crack Seal (Major)	0.25	$2,177.81
	Ossipee Mountain Rd	L3130085__	7	Crack Sealing	Crack Seal (Major)	0.25	$2,179.47
	Ossipee Mountain Rd	L3130085__	8	Crack Sealing	Crack Seal (Major)	0.25	$2,177.81
	Ossipee Mountain Rd	L3130085__	9	Crack Sealing	Crack Seal (Major)	0.32	$2,762.31
	Playground Dr	L3130143__	1	Pavement	Asphalt Rubber SAM	0.10	$8,200.16
	Randall Rd	L3130086__	3	Pavement	Asphalt Rubber SAM	0.32	$21,129.90
	Redding Ln	L3130075__	3	Pavement	Asphalt Rubber SAM	0.25	$17,575.57
	Redding Ln	L3130075__	4	Pavement	Asphalt Rubber SAM	0.25	$17,548.98
	Redding Ln	L3130075__	5	Pavement	Asphalt Rubber SAM	0.25	$17,548.98
	Redding Ln	L3130075__	6	Pavement	Asphalt Rubber SAM	0.25	$17,548.98
	Redding Ln	L3130075__	7	Pavement	Asphalt Rubber SAM	0.27	$18,998.10
	Rocky Winds Rd	L3130134__	3	Overlays	HMA Overlay (1.25")	0.23	$18,554.11
	Ruppert Rd	L3130137__	1	Overlays	HMA Overlay (1.25")	0.33	$26,798.68
	Severance Rd	L3130083__	2	Overlays	HMA Overlay (1.25")	0.25	$18,478.46
	Severance Rd	L3130083__	3	Overlays	HMA Overlay (1.25")	0.25	$18,520.49
	Severance Rd	L3130083__	4	Overlays	HMA Overlay (1.25")	0.25	$18,506.48
	Severance Rd	L3130083__	5	Crack Sealing	Crack Seal (Major)	0.25	$2,116.57
	Slade Ln	L3130188__	1	Overlays	HMA Overlay (1.25")	0.09	$6,795.98
	Winaukee Rd	L3130065__	5	Crack Sealing	Crack Seal (Major)	0.25	$2,283.25
	Winaukee Rd	L3130065__	8	Crack Sealing	Crack Seal (Major)	0.25	$2,278.06
					Total for Year 2024	14.03	$821,505.8

Repair Detail By Year

2025	Bentley Rd	L3130156__	1	Pavement	Asphalt Rubber SAM	0.16	$13,115.05
	Birch Ln	L3130144__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,249.21
	Birch Ln	L3130144__	2	Crack Sealing	Crack Seal (Major)	0.37	$3,355.07
	Driftwood Dr	L3130151__	1	Overlays	HMA Overlay (1.25")	0.25	$20,053.62
	Driftwood Dr	L3130151__	2	Overlays	HMA Overlay (1.25")	0.31	$24,729.26
	Eagle Shore Rd	L3130215__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,247.50
	Highway Garage Rd	L3130158__	1	Overlays	HMA Overlay (1.25")	0.31	$26,018.17
	Iroquois Ln	L3130073__	1	Pavement	Asphalt Rubber SAM	0.07	$4,127.01
	Jacobs Rd	L3130123__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,358.10
	Jacobs Rd	L3130123__	2	Pavement	Asphalt Rubber SAM	0.25	$19,921.60
	Jacobs Rd	L3130123__	3	Pavement	Asphalt Rubber SAM	0.35	$27,633.68
	Lee Rd	L3130081__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,138.86
	Paradise Dr	L3130149__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,568.58
	Paradise Dr	L3130149__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,566.63
	Paradise Dr	L3130149__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,465.29
	Paradise Dr	L3130149__	4	Crack Sealing	Crack Seal (Major)	0.25	$2,461.55
	Paradise Dr	L3130149__	5	Crack Sealing	Crack Seal (Major)	0.25	$2,465.29
	Paradise Dr	L3130149__	6	Crack Sealing	Crack Seal (Major)	0.26	$2,579.13
	Severance Rd	L3130083__	5	Overlays	HMA Overlay (1.25")	0.25	$19,460.13
	Shaker Jerry Rd	L3130071__	1	Pavement	Asphalt Rubber SAM	0.25	$19,906.51
	Shaker Jerry Rd	L3130072__	1	Pavement	Asphalt Rubber SAM	0.25	$19,936.69
	Shaker Jerry Rd	L3130070__	1	Pavement	Asphalt Rubber SAM	0.25	$19,921.60
	Shaker Jerry Rd	L3130070__	2	Pavement	Asphalt Rubber SAM	0.25	$19,891.42
	Shaker Jerry Rd	L3130071__	2	Pavement	Asphalt Rubber SAM	0.25	$19,936.69
	Shaker Jerry Rd	L3130072__	2	Pavement	Asphalt Rubber SAM	0.25	$19,921.60
	Shaker Jerry Rd	L3130071__	3	Pavement	Asphalt Rubber SAM	0.25	$19,936.69
	Shaker Jerry Rd	L3130070__	3	Pavement	Asphalt Rubber SAM	0.25	$19,921.60
	Shaker Jerry Rd	L3130070__	4	Pavement	Asphalt Rubber SAM	0.17	$13,552.72
	Shaker Jerry Rd	L3130071__	4	Pavement	Asphalt Rubber SAM	0.25	$19,876.32
	Shaker Jerry Rd	L3130071__	5	Pavement	Asphalt Rubber SAM	0.25	$19,936.69

Repair Detail By Year

	Shaker Jerry Rd	L3130071__	6	Pavement	Asphalt Rubber SAM	0.36	$28,388.28
	Sheridan Rd	L3130092__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$46,460.49
	Sheridan Rd	L3130092__	2	Rehabilitate and	8" Reclaim and Pave	0.25	$46,460.49
	Sheridan Rd	L3130092__	3	Rehabilitate and	8" Reclaim and Pave	0.25	$46,390.15
	Sheridan Rd	L3130092__	4	Rehabilitate and	8" Reclaim and Pave	0.25	$46,390.15
	Sheridan Rd	L3130092__	5	Rehabilitate and	8" Reclaim and Pave	0.25	$46,390.15
	Winaukee Rd	L3130065__	5	Pavement	Asphalt Rubber SAM	0.25	$19,921.60
	Winaukee Rd	L3130065__	8	Pavement	Asphalt Rubber SAM	0.25	$19,876.32
					Total for Year 2025	9.62	$695,529.89
2026	Birch Ln	L3130144__	1	Pavement	Asphalt Rubber SAM	0.25	$19,624.59
	Birch Ln	L3130144__	2	Pavement	Asphalt Rubber SAM	0.37	$29,273.35
	Blake Rd	L3130079__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,322.94
	Blake Rd	L3130079__	4	Crack Sealing	Crack Seal (Major)	0.24	$2,240.29
	Colonial Dr	L3130163__	1	Crack Sealing	Crack Seal (Major)	0.35	$3,103.29
	Eagle Shore Rd	L3130215__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,322.94
	Eagle Shore Rd	L3130215__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,322.94
	Eagle Shore Rd	L3130215__	4	Crack Sealing	Crack Seal (Major)	0.25	$2,321.18
	Eagle Shore Rd	L3130215__	5	Crack Sealing	Crack Seal (Major)	0.20	$1,892.12
	Hanson Mill Rd	L3130072__	3	Crack Sealing	Crack Seal (Major)	0.33	$3,212.81
	Hayes Ln	L3130164__	1	Crack Sealing	Crack Seal (Major)	0.30	$2,642.73
	Jacobs Rd	L3130123__	1	Pavement	Asphalt Rubber SAM	0.25	$20,574.67
	Melly Ln	L3130185__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,108.07
	Old Long Island Rd	L3130127__	1	Crack Sealing	Crack Seal (Major)	0.12	$999.14
	Old Long Island Rd	L3130060__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,100.12
	Old Long Island Rd	L3130060__	2	Crack Sealing	Crack Seal (Major)	0.19	$1,637.14
	Old Route 109	L3130087__	7	Crack Sealing	Crack Seal (Major)	0.25	$2,322.94
	Old Route 109	L3130087__	8	Crack Sealing	Crack Seal (Major)	0.25	$2,207.30
	Old Route 109	L3130087__	9	Crack Sealing	Crack Seal (Major)	0.15	$1,297.92
	Paradise Dr	L3130149__	1	Pavement	Asphalt Rubber SAM	0.25	$22,411.11
	Paradise Dr	L3130149__	2	Pavement	Asphalt Rubber SAM	0.25	$22,394.12

Repair Detail By Year

	Paradise Dr	L3130149__	3	Pavement	Asphalt Rubber SAM	0.25	$21,509.88
	Paradise Dr	L3130149__	4	Pavement	Asphalt Rubber SAM	0.25	$21,477.31
	Paradise Dr	L3130149__	5	Pavement	Asphalt Rubber SAM	0.25	$21,509.88
	Paradise Dr	L3130149__	6	Pavement	Asphalt Rubber SAM	0.26	$22,503.14
	Red Hill Rd	L3130093__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$52,702.02
	Severance Rd	L3130083__	1	Rehabilitate and	8" Reclaim and Pave	0.25	$47,874.63
	Sheridan Rd	L3130092__	6	Rehabilitate and	8" Reclaim and Pave	0.25	$47,874.63
	Sheridan Rd	L3130092__	7	Rehabilitate and	8" Reclaim and Pave	0.25	$47,874.63
	Sheridan Rd	L3130092__	8	Rehabilitate and	8" Reclaim and Pave	0.25	$47,910.93
	Sheridan Rd	L3130092__	9	Rehabilitate and	8" Reclaim and Pave	0.25	$47,910.93
	Sheridan Rd	L3130092__	10	Rehabilitate and	8" Reclaim and Pave	0.28	$54,444.24
	Sibley Rd	L3130097__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,433.56
	Sibley Rd	L3130097__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,431.72
	Sibley Rd	L3130097__	4	Crack Sealing	Crack Seal (Major)	0.25	$2,426.19
	States Landing Rd	L3130043__	1	Crack Sealing	Crack Seal (Major)	0.25	$2,652.78
	States Landing Rd	L3130043__	2	Crack Sealing	Crack Seal (Major)	0.25	$2,656.80
	States Landing Rd	L3130043__	3	Crack Sealing	Crack Seal (Major)	0.25	$2,650.77
	States Landing Rd	L3130043__	4	Crack Sealing	Crack Seal (Major)	0.27	$2,835.66
	Winaukee Rd	L3130065__	1	Pavement	Asphalt Rubber SAM	0.25	$20,559.09
	Winaukee Rd	L3130065__	2	Pavement	Asphalt Rubber SAM	0.25	$20,574.67
	Winaukee Rd	L3130065__	3	Rehabilitate and	8" Reclaim and Pave	0.25	$52,702.02
	Winaukee Rd	L3130065__	4	Pavement	Asphalt Rubber SAM	0.25	$20,559.09
	Winaukee Rd	L3130065__	6	Pavement	Asphalt Rubber SAM	0.25	$20,574.67
	Winaukee Rd	L3130065__	7	Pavement	Asphalt Rubber SAM	0.25	$20,590.24
					Total for Year 2026	11.32	$756,571.19
					Total	99.75	$7,633,766.80

Appendix E

Summary Table – Annual Repair Costs and PCI

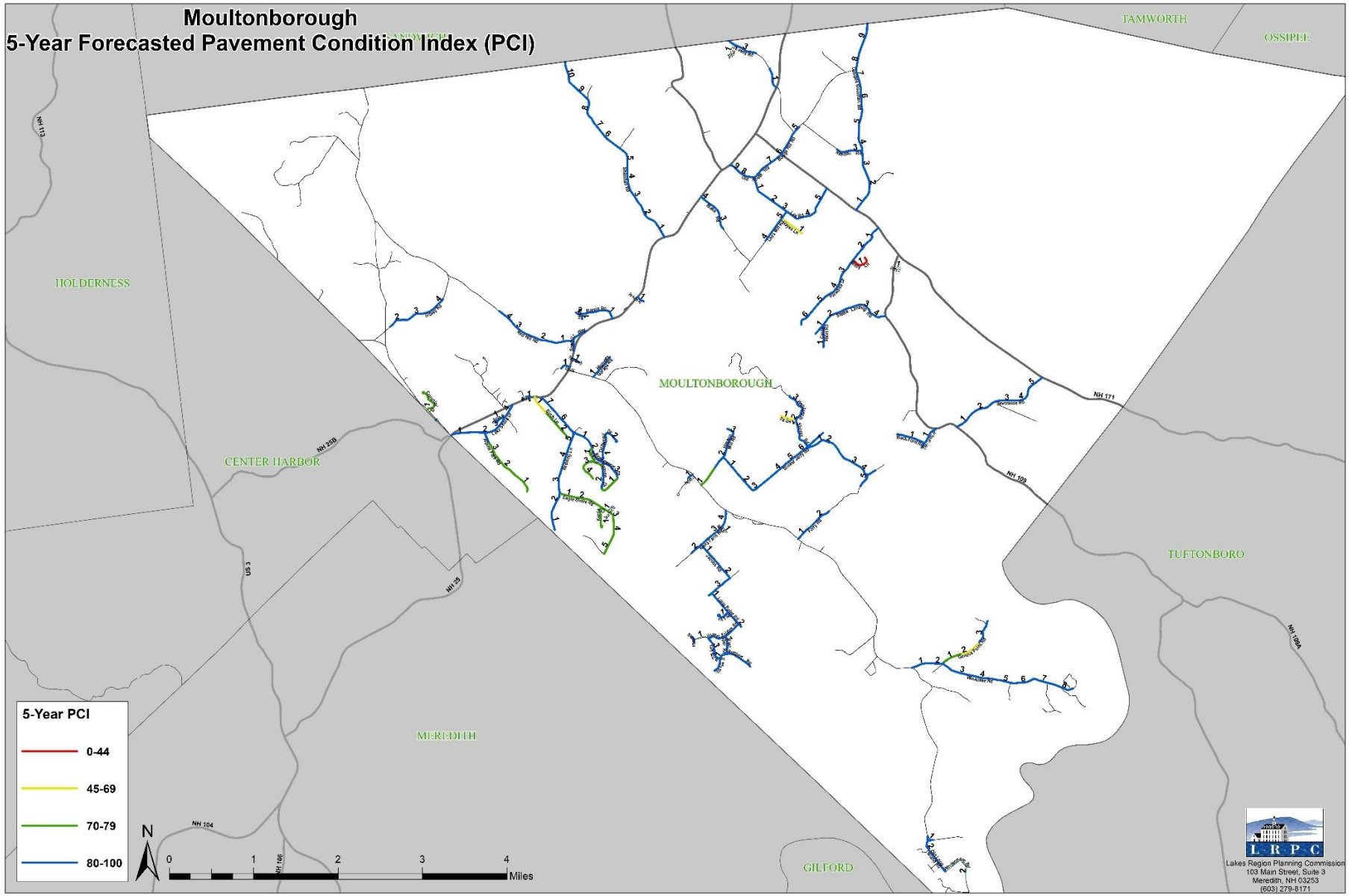
Annual Repair Cost and PCI

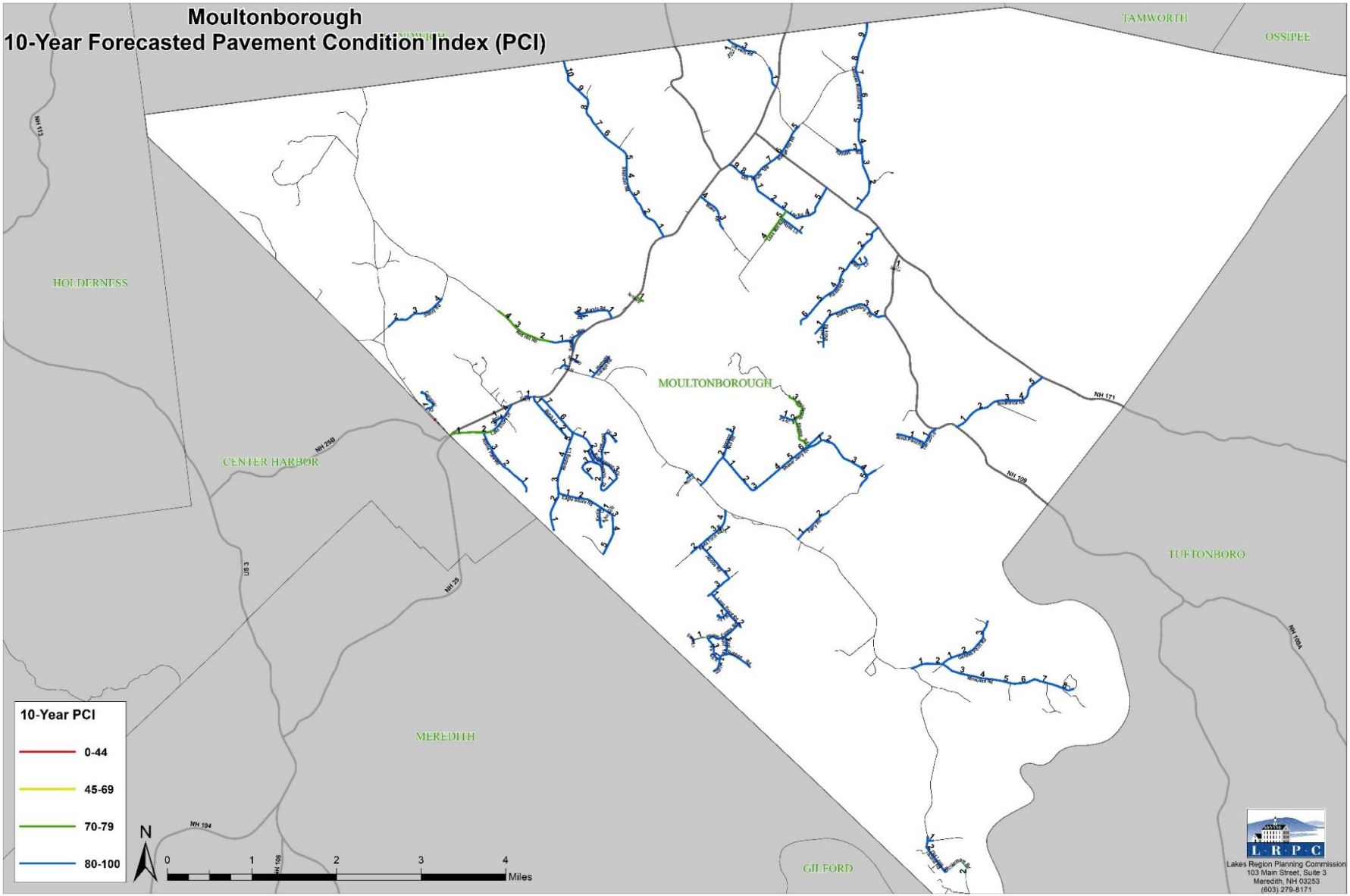
Moultonborough_2017 - Moultonborough_New

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Average PCI Before Repairs	75.88	72.47	69.21	66.09	63.12	60.28	57.56	54.97	52.50	50.14
Average PCI After Repairs	79.02	82.72	83.96	85.02	85.67	84.73	85.40	86.80	87.17	87.90
Total Repair Cost	508,707.17	1,111,738.98	834,246.28	849,784.15	699,484.70	510,259.15	845,939.49	821,505.80	695,529.89	756,571.19
Total Miles Treated	2.82	14.14	14.57	6.58	5.78	7.92	11.42	13.97	9.62	11.32

Appendix F

Maps of Forecasted Pavement Condition Index (PCI)




Moultonborough
10-Year Forecasted Pavement Condition Index (PCI)
TAMWORTH
OSSIPEE
HOLDERNESS
MOULTONBOROUGH
CENTER HARBOR
TUFTONBORO
MEREDITH
GILFORD
NH 113
NH 25B
NH 25
NH 104
NH 171
NH 109
NH 109A
10-Year PCI
0-44
45-69
70-79
80-100
N
0
1
2
3
4
Miles
L R P C
Lakes Region Planning Commission
103 Main Street, Suite 3
Meredith, NH 03253
(603) 279-8171

Appendix G

SADES Data Collection Program

SADES Data Collection Program and Lakes Region Planning Commission (LRPC)

The SADES (Statewide Asset Data Exchange System) is a joint program among regional planning commissions, NHDOT, NHDES and UNH T^2 that establishes a primary transportation asset inventory system and maintainable condition assessment process for many state and local agencies. This unique approach to statewide asset management utilizes modern technology for accurate, sustainable, efficient, and cost effective data collection and analysis. Even though the UNH Technology Transfer Center (UNH T^2) has made asset management software packages available for over 25 years, alignment of recent technological changes with new electronic devices and software advances has made dynamic data management much more manageable.

The SADES training program brings LRPC technicians and planners together with experts from NHDOT, NHDES, UNH T^2, and the private sector to learn about structural and environmental factors, how to inventory and assess the condition of these factors, and how to efficiently use the state-wide data collection system. By requiring this training of all technicians along with rigorous quality assurance and quality control (QA/QC) and ongoing technical support, a high standard and level of consistency is assured.

SADES Training is required and on-going support provided to LRPC planners and technicians in the use of the SADES inventory and analysis and forecasting software. The development, piloting, and implementation of these transportation management modules was completed in large and small communities across the state to ensure that the software formulas could accommodate and properly reflect the conditions encountered in most New Hampshire communities.

Trained and certified LRPC planners and technicians can utilize the SADES protocol to inventory and assess the following transportation assets:

Stream Crossings and Culverts;
Sidewalks;
Crosswalks;
Curb Ramps;
Pavement Conditions (RSMS);
Guardrails;
and also investigating
Closed System Drainage (such as Catch Basins); and
Municipal Bridge Inventories

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

New Hampshire DOT Department of Transportation

T^2 New Hampshire Technology Transfer Center

L · R · P · C